

WHAT IS CLAIMED IS:

1. An image process method comprising:

an input step of inputting color image data  
composed of a signal representing brightness and a  
5 signal representing tint; and

a smoothing process step of performing a smoothing  
process to the signal representing tint, while holding  
the signal representing brightness.

10 2. A method according to Claim 1, wherein said  
input step further comprises a conversion step of  
converting the color image data composed of plural  
color component signals into the signal representing  
brightness and the signal representing tint.

15 3. A method according to Claim 1, further  
comprising:

a judgment step of judging whether or not the  
color image data including the signal representing  
20 brightness represents an edge part, on the basis of the  
signal representing brightness; and

a step of not performing the smoothing process, if  
it is judged that the color image data represents the  
edge part.

25 4. A method according to Claim 3, wherein, if it  
is judged that the color image data represents the edge

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part, an emphasis process is performed to the signal representing brightness.

5. A method according to Claim 1, further  
5 comprising:

a judgment step of judging whether or not the color image data including the signal representing tint represents a tint change part, on the basis of the signal representing tint; and

10 a step of not performing the smoothing process, if it is judged that the color image data represents the tint change part.

6. A method according to Claim 1, further  
15 comprising:

a judgment step of judging whether or not the color image data represents a highlight part; and

a step of not performing the smoothing process, if it is judged that the color image data represents the  
20 highlight part.

7. A method according to Claim 1, wherein the smoothing process is the process which is performed by using a filter symmetrical with respect to a notable  
25 pixel in upper and lower directions and right and left directions.

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8. A method according to Claim 1, wherein the smoothing process is the filtering process which uses peripheral pixels of the input color image data being the notable pixel, and the color image data subjected to the smoothing process is used in a smoothing process for other color image data.

9. A method according to Claim 8, wherein the smoothing process is the process which uses a filter having high weight for a pixel area subjected to the smoothing process prior to the notable pixel, and the data is digitally processed.

10. An image process method comprising:  
an input step of inputting a drawing instruction indicating an output color image;  
a detection step of detecting an image data part on the basis of the drawing instruction; and  
a color noise reduction process step of performing a color noise reduction process to the image data part.

11. A method according to Claim 10, wherein the color image data is composed of a signal representing brightness and a signal representing tint, and the noise reduction process is a smoothing process which is performed to the signal representing tint while holding the signal representing brightness.

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12. A method according to Claim 10, wherein, if a graphic image data part is detected on the basis of the drawing instruction, the color noise reduction process is not performed.

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13. An image process method which performs a filtering process to color image data, comprising:

a detection step of detecting a scene change part in accordance with the color image data and peripheral color image data; and

a filter size change step of changing a filter size in accordance with the detected result.

14. A method according to Claim 13, wherein a filter used in the filtering process is a filter for referring to a notable line including a notable pixel and lines before the notable line.

15. A method according to Claim 13, further comprising:

a drawing instruction group input step of inputting a group of drawing instructions indicating an output image;

an image data generation step of generating output image data representing the output image, on the basis of the group of the drawing instructions;

a division step of dividing the same image on the

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basis of the plural drawing instructions; and  
a division image input step of inputting the  
divided plural images.

5           16. An image process apparatus comprising:  
input means for inputting color image data  
composed of a signal representing brightness and a  
signal representing tint;

10           smoothing process means for performing a smoothing  
process to the signal representing tint, while holding  
the signal representing brightness; and

15           image formation means for forming an image on the  
basis of the signal representing brightness and the  
signal representing tint subjected to the smoothing  
process.

17. An image process apparatus comprising:  
input means for inputting a drawing instruction  
indicating an output color image;

20           detection means for detecting an image data part  
on the basis of the drawing instruction;

color noise reduction process means for performing  
a color noise reduction process to the image data part;  
and

25           image formation means.

18. An image process apparatus which performs a

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filtering process to color image data, comprising:

detection means for detecting a scene change part in accordance with the color image data and peripheral color image data;

5 filter size change means for changing a filter size in accordance with the detected result; and  
image formation means.

10 19. A computer-readable recording medium which records a program to cause a computer to execute:

an input procedure for inputting color image data composed of a signal representing brightness and a signal representing tint; and

15 a smoothing process procedure for performing a smoothing process to the signal representing tint, while holding the signal representing brightness.

20 20. A computer-readable recording medium which records a program to cause a computer to execute:

an input procedure for inputting a drawing instruction indicating an output color image;

a detection procedure for detecting an image data part on the basis of the drawing instruction; and

25 a color noise reduction process procedure for performing a color noise reduction process to the image data part.

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5           a detection procedure for detecting a scene change  
part in accordance with the color image data and  
peripheral color image data; and

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a calculation step of calculating a feature quantity of an input image;

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5           25. A method according to Claim 22, further comprising a scaling step of scaling an image size, and wherein the order of said scaling step and said color noise reduction process step is controlled in accordance with a scaling rate.

27. A method according to Claim 22, wherein, in  
said image correction step, brightness of the input  
20 image is corrected.

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29. A method according to Claim 23, wherein, in said image correction step, the component representing



30. A method according to Claim 22, wherein, in  
5 said calculation step, the feature quantity is  
calculated on the basis of the input image subjected to  
the color noise reduction process.

32. An image process method comprising:  
a color noise reduction process step of performing  
15 a color noise reduction process for input digital image  
data; and

33. An image process apparatus comprising:  
calculation means for calculating a feature  
quantity of an input image;  
25 color noise reduction process means for performing  
a color noise reduction process for input image data;  
and

image correction means for performing a correction process to the input image subjected to the color noise reduction process, on the basis of the calculated feature quantity.

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34. An apparatus according to Claim 33, further comprising image formation means for forming an image on the basis of the image data subjected to the correction process.

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35. A recording medium which records a computer-readable program to realize an image process apparatus comprising:

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a calculation step of calculating a feature quantity of an input image;

a color noise reduction process step of performing a color noise reduction process for input image data; and

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an image correction step of performing a correction process to the input image subjected to the color noise reduction process, on the basis of the calculated feature quantity.

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